

III. REMARKS

The final Office Action dated April 13, 2007, has been received and carefully noted. The amendments made herein and the following remarks are submitted as a full and complete response thereto.

Claims 1, 3-5, 7, 11, 13-15, 22 and 23 are currently pending, and claims 14-15 and 22-23 are withdrawn.

At this time, claim 1 is amended, and claims 2, 6, 8-10 and 12 are canceled. Support for the amendments can be found in the specification and in the claims as originally filed. For example, claim 1 has been amended to clarify the scope of the presently claimed invention. Support for the amendment to claim 1 can be found in paragraph [0025] of the specification. As such, Applicants believe that no new matter is added and respectfully request reconsideration and withdrawal of all rejections.

Entry of this Amendment is proper under 37 C.F.R. § 1.116 since this Amendment: (a) places the application in condition for allowance for reasons discussed herein; (b) does not raise any new issues regarding further search and/or consideration since the Amendment amplifies issues previously discussed throughout prosecution; (c) does not present any additional claims without canceling a corresponding number of finally-rejected claims, and (d) places the application in better form for appeal, should an appeal be necessary. Entry of this Amendment is thus respectfully requested.

Claims 8-10 were objected to under 37 C.F.R. § 1.75(c), as being of improper dependent form. Applicants have canceled claims 8-10 and thus respectfully submit that the objection is moot.

Claims 6 and 12 were rejected under 35 U.S.C. § 112, second paragraph, for the asserted indefiniteness. Applicants have canceled claims 6 and 12 and thus respectfully submit that the rejection under 35 U.S.C. § 112, second paragraph is moot.

Claims 1-7, 11, and 13-14 were rejected under 35 U.S.C. § 103(a) over Masel et al. (U.S. Patent Application Publication No. 2003/0198852), in view of Snow et al. (U.S. Patent No. 6,589,312). Claims 1-7, 11 and 13-14 were also rejected under 35 U.S.C. § 103(a) over Snow et al., in view of Masel et al. Applicants traverse the rejection.

Present claim 1 is directed to a “hydrogen storage material comprising metal nanoparticles that are a mixture of nanometer scale platelets and nanometer scale equiaxial particles, wherein said nanometer scale equiaxial particles comprise a metal core covered by a metal shell or metal coating, wherein the metal core is Mg or an alloy containing Mg, and wherein said platelets comprise nanometer scale Pd platelets that have a thickness of about 1 nm to about 200 nm and a face dimension of about 10 nm to about 1000 nm, an aspect ratio (face diameter divided by thickness) of the nanometer scale platelets ranges from about 10 nm to about 100 nm.” (emphasis added). Claims 3-5, 7, 11, and 13 depend from independent claim 1. Claims 2 and 6 have been canceled, and claim 14 was previously withdrawn.

In contrast, Applicants submit that Masel et al. merely discloses “catalysts for use with direct organic fuel cells” which “include nanoparticles of metals,” wherein the “[m]etals believed useful for the metal particles and the coating layers or islands in catalysts of the invention include Pt, Pd, Ru, Re, Ir, Au, Ag, Co, Fe, Ni, Y, and Mn” (Masel et al., paragraphs [0050] to [0051]) (emphasis added). As such, Applicants submit that Masel et al. fails to teach or suggest “metal nanoparticles that are a mixture of nanometer scale platelets and

nanometer scale equiaxial particles, wherein said nanometer scale equiaxial particles comprise a metal core covered by a metal shell or coating..." (present claim 1) (emphasis added).

Applicants submit that Snow et al. does not satisfy the deficiencies of Masel et al. Rather, Applicants submit that Snow et al. merely discloses "nanoparticles of hydride-forming materials" (Snow et al., col. 9, line 23). Although Snow et al. discloses that the nanoparticles can be "pure, alloyed or composite metal" (Snow et al., col. 9, line 5), it fails to teach or suggest a "metal core covered by a metal shell or metal coating, wherein the metal core is Mg or an alloy containing Mg," let alone "metal nanoparticles that are a mixture of nanometer scale platelets and nanometer scale equiaxial particles, wherein said nanometer scale equiaxial particles comprise a metal core covered by a metal shell or metal coating..." (present claim 1) (emphasis added). Rather, Snow et al. merely discloses that the "nanomaterials could be coated or partially coated by gas or liquid phase processes" and that "[d]ry coatings such as, but not limited to alkyl silanes and alkyl thiols" can be used (Snow et al., col. 10, lines 7-10) (emphasis added). Further, Applicants submit that Snow et al. does not teach or suggest "platelets [which] comprise nanometer scale Pd particles that have a thickness of about 1 nm to about 200 nm and a face dimension of about 10 nm to about 1000 nm, an aspect ratio (face diameter divided by thickness) of the nanometer scale platelets ranges from about 10 nm to about 100 nm" (present claim 1).

For at least the above reasons, Applicants request reconsideration and withdrawal of the rejection of claims 1-7, 11, and 13-14 under 35 U.S.C. § 103(a) over Masel et al. in view of Snow et al. and the rejection of claims 1-7, 11, and 13-14 under 35 U.S.C. § 103(a) over Snow et al. in view of Masel et al.

IV. **CONCLUSION**

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event this response is not timely filed, the Applicants hereby petition for an appropriate extension of time. The fee for this extension, along with any other additional fees which may be required with respect to this response, may be charged to Deposit Account No. 01-2300, referencing Attorney Docket No. **025756-00003**.

Respectfully submitted,



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